

Title (en)

METHOD FOR SENSORLESS DETERMINATION OF THE ORIENTATION OF THE ROTOR OF AN IRONLESS PMSM MOTOR

Title (de)

VERFAHREN ZUR SENSORLOSEN BESTIMMUNG DER ORIENTIERUNG DES ROTORS EINES EISENLOSEN PMSM MOTORS

Title (fr)

PROCÉDÉ DE DÉTERMINATION SANS CAPTEUR DE L'ORIENTATION DU ROTOR D'UN MOTEUR PMSM SANS FER

Publication

EP 3288179 B1 20201104 (DE)

Application

EP 17187059 A 20170821

Priority

CH 10782016 A 20160822

Abstract (en)

[origin: US2018054147A1] A method and system for sensorless determination of the orientation of the rotor of an ironless PMSM motor from a known rotor angle is described. The method and system include: specifying a rotor system according to the rotor angle; applying voltage pulses to the phases of the motor in the torque-forming direction of the rotor system; measuring the current in the phases of the motor; determining the expected back EMF along the flux-forming axis, based on the measured current; forming an integral of the expected back EMF by time integration of the expected back EMF along the flux-forming axis and/or a filter-based accumulation function; and determining the orientation of the rotor from the algebraic sign of the integral of the expected back EMF and/or the accumulation function.

IPC 8 full level

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CPC (source: CH CN EP KR US)

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Cited by

US11824471B2; WO2021083590A1; EP3876418A1

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